

[2003 Fall A18] Efficacy of lumbar sympathetic blockade in the management of Complex Regional Pain Syndrome (CRPS)

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Complex regional pain syndrome (CRPS) is characterized by abnormalities within the sympathetic nervous system. Since sympathetic hyperactivity perpetuates the clinical symptoms, lumbar sympathetic block (LSB) is commonly used as a therapeutic intervention to block the sympathetic cycle. To determine outcome and efficacy of LSB, a review of 30 patients visiting our pain clinic during the past 18 months was conducted. This review included age, hyperalgesia, allodynia, number of surgeries and LSB procedures, duration of CRPS, changes in temperature following LSB and overall response to treatment as reported by the patient. Each measure was numerically coded and entered into a standard statistics package (SPSS V11). Cross-correlation analysis revealed significant positive association between age and number of LSB procedures; duration of CRPS and number of surgeries; hyperalgesia and allodynia; and a negative association of overall response to treatment and number of surgeries. Principal component analysis revealed three interpretable eigenvectors accounting for 63% of the data variance, as shown in the table.

The largest component weighed positively on hyperalgesia, allodynia, LSB, temperature change following LSB and overall response to treatment. Negative weightings were observed on duration of CRPS and number of surgeries. This first component suggests that patients who enter the clinic with symptoms and have a positive response to the LSB are likely to report improvement of their CRPS symptoms. This positive outcome, however, is offset by a longer history of CRPS combined with multiple past surgeries. The second component reinforces the finding of component 1 indicating a worse response with longer duration of CRPS and multiple surgeries. Component 3 indicates a better LSB response if the patient is younger and has had fewer previous blocks. Overall these findings suggest that younger patients with symptoms of hyperalgesia and allodynia who have a relatively short history of CRPS and few past surgeries will respond well to LSB. Conversely, older patients with longer history of CRPS and many past surgeries are much less likely to have a positive treatment outcome.

Chart Record	Component Weightings		
	1. (31% Variance)	2. (19% Variance)	3. (13% Variance)
Age	0	0	-0.54
CRPS Duration	-0.5	0.55	0
Hyperalgesia	0.73	0	0
Allodynia	0.89	0	0
LSB	0.42	0	-0.68
Response	0.44	-0.59	0
Surgeries	-0.53	0.69	0
Temperature Change	0.44	0	0.55